



Ninyo & Moore

Geotechnical and Environmental Sciences Consultants

November 22, 2004
Project No. 301646001

Mr. John Krause
U.S. Department of the Interior
Bureau of Indian Affairs
Western Regional Office
Two Arizona Center
400 North 5th Street
Phoenix, Arizona 85004

Subject: Site Inspection Letter
Hecla Mining Company Apex Site Pond 2

Reference: Gila Management LLC, *Phase II - Sump Drainage System* dewatering progress report, dated September 18, 2004.

Monster Engineering Incorporated, *Apex Site Final Engineering Report for Pond 2 Closure*, prepared for Hecla Mining Company, dated March 25, 2004.

Dear Mr. Krause:

On October 19, 2004, Ninyo & Moore personnel conducted a site visit of the Hecla Mining Company Apex Site Pond 2, located on the Shivwits Band Reservation outside of St. George, Utah. In the course of the visit, we met with Mr. John Jones of Gila Management and Mr. Chris Gypton of Hecla Mining Company who explained the process for closing and capping Pond 2 as disclosed in the Final Engineering Report - Pond 2 Closure Plan, dated March 25, 2004 (the Closure Plan). Based on observations made during the site visit, conversations with the parties involved with the closure activities, and study of select documents, we have identified a number of areas of concern regarding the planned closure activities and potential environmental impact to the Shivwits Band Reservation land.

The Pond is located hydraulically upgradient from the Santa Clara River and the Ivins Reservoir and it is possible that leachate escaping from the Pond could eventually find its way into these waterways and eventually into the Virgin River. However, no monitoring wells have been in-

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stalled around the perimeter of the Pond to ascertain whether or not leaching of possibly contaminated water into native soil outside the Pond perimeter has occurred.

Ninyo & Moore recommends that several shallow groundwater monitoring wells be installed outside the perimeter of the Pond to a depth of approximately 30 feet below grade. Additional wells should be installed near the center of the Pond to a depth of the existing Pond liner utilizing an "air knife" drilling technique to limit the possibility of damaging the Pond liner while gaining access to the remaining water trapped at the bottom of the pond. Groundwater samples from these wells should be analyzed for the eight RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). In addition, since observation of the sumps placed in the Pond area revealed a possible petroleum sheen on the water within the sumps, the water samples should be analyzed for total petroleum hydrocarbons (TPH) as well.

The Phase II - Sump Drainage System dewatering progress report, dated September 18, 2004, indicates that the methods of dewatering deployed to date, including installation of vertical wicks and vertical sumps, are designed to lower the subsurface water level to an elevation at or below the top of the lip of the external berm of the pond. That elevation is estimated to be approximately 5 feet below grade. The Closure Plan contains no procedures or methods for dewatering Pond 2 to the greatest extent possible prior to closure. Observations made during the site visit suggest that water present within Pond 2 has breached the lip of the external berm of the Pond and is seeping out on the south wall of the containment.

Additionally, the evaporation ponds constructed on top of Pond 2 are likely of inadequate size and quality to handle the significant quantity of water that is present in the impoundment and stand up to environmental factors such as wind. Salt residue accumulating in the evaporation ponds may present a hazard if it becomes airborne due to windy conditions. Ninyo & Moore recommends that the accumulated salt residue be routinely removed from the evaporation ponds and disposed of in accordance with applicable local, state, and federal regulations. Ninyo & Moore further recommends installation and operation of a more effective dewatering and evaporation Pond system to aggressively remove as much water as practicable from Pond 2 prior to final clo-

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sure in order to minimize the chances of future leaching of water from the Pond into the surrounding environment.

During the site visit, Mr. Gypton mentioned the possibility that a relatively nearby landfill may be capable of accepting soil excavated from Pond 2. Mr. Gypton indicated that the option of excavating the Pond was open pending consideration of feasibility and cost. Ninyo & Moore believes that excavation and removal of the wastes present in Pond 2 would represent the most desirable closure option for the site and that this option should be fully explored prior to final closure of Pond 2.

Ninyo & Moore recommends that the issues raised above be discussed and resolved prior to completion of closure activities at Pond 2. This letter is intended only to express initial findings and opinions reached by Ninyo & Moore as a result of the tour of Pond 2 and discussions conducted on October 19, 2004. In accordance with the purchase order, Ninyo & Moore will be issuing a comprehensive report of findings relating to Pond 2 based on site visits and a complete review of relevant documents pertaining to Pond 2 at a later date.

We appreciate the opportunity to be of service to you on this project. Should you have any questions, please contact the undersigned at your convenience.

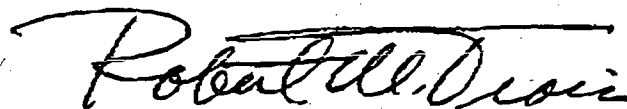
Sincerely,
NINYO & MOORE



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GB/RMT/rhm

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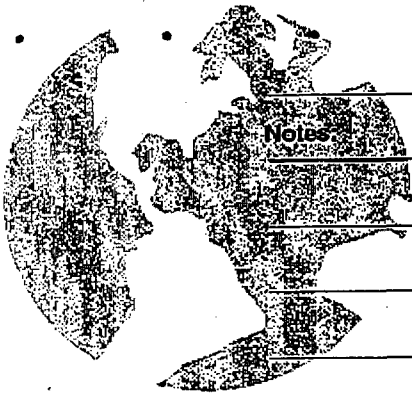
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